Thermal and Pulse Radiofrequency Nerve Treatments

When chronic pain leads to dysfunction of the body's pain control systems, two types of radiofrequency treatment can effectively relieve pain and aid in the reeducation of the central nervous system. These treatments are often utilized to control facet joint pain and chronic sciatic and low back pain. Radiofrequency refers to a special type of electricity. Whereas the frequency of electricity used in your home is 60 Hertz, or cycles per second, radiofrequency treatments operate closer to 500,000 Hertz. Radiofrequency has been used in the treatment of pain for over 30 years.

Pulse Radiofrequency Treatment (PRF)

Pulse radiofrequency treatment, where short bursts of energy are applied to nerve tissue, is used by pain practitioners as a non- or minimally neurodestructive technique. As opposed to standard radiofrequency lesioning (RF) which causes tissue destruction, PRF can be used to treat chronic pain conditions without neuron damage. Many patients with neuropathic pain syndromes which have been poorly controlled with other oral and invasive treatments have shown remarkable improvement with PRF. Multiple studies have confirmed that the electromagnetic energy used in PRF changes pain regulatory genes in cells along the nervous system's pain pathway and helps to reverse exaggerated pain sensitivity due to peripheral nerve injury.

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Thermal Radiofrequency Lesioning (RF)

Standard RF lesioning, sometimes termed, "radiofrequency neurotomy," or "radiofrequency ablation," is a non-surgical technique for destroying dysfunctional nerve tissue. (While surgical methods exist for nerve destruction, they include the risk of causing painful nerve tumors called neuroma, or even a loss of sensory input from a portion of the body, known as deafferentation.) In RF lesioning, a special type of needle is positioned near the nerve using x-ray control for accurate placement. RF current is then passed through the needle, heating the tip and causing just enough damage to relieve pain. Lesion size can be accurately controlled, allowing lesioning of small nerves without damaging nearby motor and sensory nerves. Recovery is rapid and usually uneventful, allowing the patient to return to normal activity more quickly. The effect is usually long-lasting, with an accurately performed lesion providing pain relief for years.

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